ETYMŌTIC

ER•4 microPro™ earphones



User Manual

WARRANTY

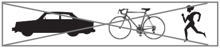
Etymotic Research warrants this product against defects in material or workmanship for a period of two years from the date of original purchase from an authorized Etymotic distributor or reseller.

Etymotic will repair or replace the defective product at its option if returned within the warranty period to our service facility. This warranty is in lieu of all other warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose.

CAUTION

Consult a physician or audiologist if you have excessive ear wax, difficulty inserting the eartips, or discomfort after prolonged use.

ER•4 MicroPro earphones exclude most external sounds even at low listening volumes. It is unsafe to use insert earphones while driving a motorized vehicle, operating machinery, bicycling or jogging, because you may not be alerted to potential danger.



Do not use the earphones at excessively loud levels. Noise-induced hearing loss is a function of exposure time, the average sound level and the peak of very loud sounds. Decreased listening levels allow for longer periods of safe listening time.

ABOUT ER•4 EARPHONES

ER•4 MicroPro earphones were the first high-fidelity, in-ear earphones to use balanced armater drivers. These high definition transducers combine flat frequency response with passive noise isolation. Noise reduction with **ER•4 MicroPro** earphones occurs naturally when the eartips are sealed in the ear canals. Earphones with active noise-canceling add circuit noise and require batteries.

The triple-flange eartips provide 35 dB average sound reduction, which is approximately 98% noise isolation. Foam eartips provide slightly more (42 dB) average external noise isolation. Lowering surrounding noise allows the listener to hear the full dynamic range of recordings at lower reproduction levels.

PROPER CARE

- Do not expose earphones to extreme temperatures.
- Avoid dropping and strong impact.
- Always leave eartips on the earphones for shock protection.
- Perspiration may cause earphones to temporarily stop working, but normal operation usually returns after earphones dry out.
- Do not pull on the cord to remove earphones from the jack or from the ear.
- Avoid bending the barrel in the center of the cord.
- Clean or replace eartips prior to use by others.
- Change filters as needed. See **Changing the Filters** on page 9.

DESCRIPTIONS

ER•4P earphones can be used with any audio source without requiring an additional amplifier. ER•4P earphones have 10 dB greater output at high frequencies and 13 dB greater output at low frequencies than ER•4S earphones. The higher sensitivity and enhanced bass of the ER•4P earphones have made them Etymotic's most popular premium earphones.

ER•4S earphones were designed to compensate for the high frequency emphasis in all CD recordings, in order to provide accurate sound reproduction. The high accuracy and exceptional sound isolation of the ER•4S have made these earphones popular with musicians, recording engineers and audiophiles. Performing musicians often use them as in-ear monitors because the response of the ER•4S matches the response of most monitor loudspeakers.

ER•4B earphones may be preferred by those who want to hear the slight high-frequency boost which is standard practice in CD and vinyl recordings (5 dB at 10 kHz). ER•4B earphones were originally designed to provide an eardrum-pressure frequency response closely mimicking that of the open ear in a diffuse sound field, making them ideal for any material that has not been equalized for loudspeaker playback, such as properly equalized binaural recordings. Many early listeners found the 4B earphones a bit bright, which led to the introduction of the ER•4S.

SYSTEM INCLUDES

- ER•4 MicroPro earphones
- 5 ft cord with 3.5 mm stereo phone plug
- 1/4" stereo phone adapter plug
- Assorted eartips
- Filter changing tool and replacement filters
- Shirt clip
- Pouch and storage box





Storage Box



OPTIONAL ACCESSORIES



Airline adapter



Cable to convert
ER-4P to ER-4S response

Replacement accessories are available at www.etymotic.com.

EARTIPS

ER•4 MicroPro earphones are supplied with an assortment of eartips that seal most ears. Eartips provide excellent sound reproduction when properly inserted.

3-flange eartips
- Clean regularly
- Replace every 6-12 months


3-flange large


3-flange small

Foam and Glider eartips
- Disposable
- Replace as needed


Black foam eartip


Glider eartip

Changing the eartips
- A combination of twisting and pulling is recommended for eartip removal.
- Be careful not to bend the earphone.

CLEANING THE EARTIPS

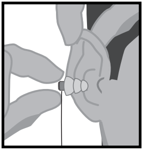
1. Carefully remove the eartip from the earphone.
2. Use water and mild soap to remove dirt and earwax from the eartip.
3. Rinse and completely dry the eartip.
4. Replace the eartip securely on the stem.

INSERTION

Sound quality and noise isolation depend on how well the eartips seal. If the earphones seem to lack bass, insert the earphones deeper into the ear canals to obtain a better seal, or try another eartip option.

3-flange eartip insertion

- For best results, moisten the eartip before insertion.
- Carefully insert one earphone at a time, pulling up and out on the back of the ear. The earphone should seal deeply and comfortably in the ear canal.



Foam eartip insertion

- Use a foam or glider eartip if a good seal cannot be obtained with a flanged eartip.
- Roll down or compress foam eartips before inserting. Hold the eartip in place for about 5 seconds while the foam expands to create a tight seal in the ear canal.
- Glider eartips slide into the ear; no compression is necessary.

See video demonstration on how to insert the earphones at www.etymotic.com.

REMOVAL

Remove earphones *slowly* with a twisting motion to gradually break the seal. Do not pull on the cable to remove the earphones.

FILTERS

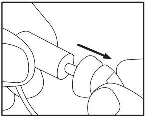
ER•4 MicroPro earphones have special filters that shape the frequency response and prevent earwax from entering the earphones. These green filters are located in the end of each earphone and are visible when the eartips are removed. A dirty filter will reduce or block the earphone output. A filter may be blocked without appearing to be dirty. If one or both earphones stops working, or if the volume decreases, filter(s) should be replaced. The frequency with which the filters need to be changed will vary widely among users.

To check: Remove the filter. If sound returns, the earphone is functioning properly. Then insert a new filter.

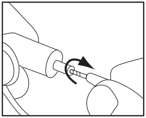
Note: Once filters are removed they are not reusable.

CHANGING FILTERS

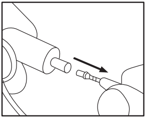
Filter removal



1. Remove Eartip.

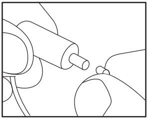


2. Screw the threaded end of the tool into the filter to grasp it.

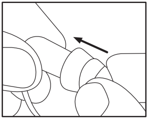


3. Remove filter by pulling straight out.

Filter replacement



1. Insert a new filter. Then gently press the earphone against a hard surface to secure the filter in place.



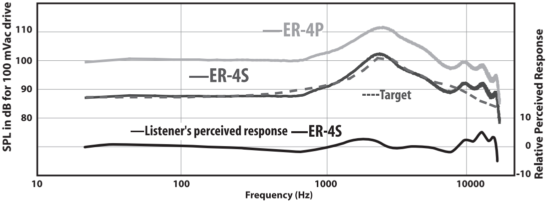
2. Re-attach eartip.

SPECIFICATIONS

Response Accuracy: **ER-4B/4S:** 92% **ER-4P:** 86%
Noise Isolation: 35-42 dB

Frequency response: 20 Hz - 16 kHz
Acoustic polarity: + electrical = + acoustic
Transducer type: balanced armature
1 kHz sensitivity (ER-4B/ER-4S): 108 dB SPL for a 0.79 V input (90 dB @ 0.1 V; 100 dB @ 1mW)
1 kHz sensitivity (ER-4P): 108 dB SPL for a 0.2 V input (102 dB @ 0.1 V; 106 dB @ 1mW)
Impedance (ER-4B/ER-4S): 100 Ohms nominal
Impedance (ER-4P): 27 Ohms nominal
Maximum output: 122 dB SPL
Maximum continuous input (ER-4B/ER-4S): 3.0 Vrms
Maximum continuous input (ER-4P): .75 Vrms
Cable: 5' with 3.5 mm stereo plug
Weight: less than 1 oz.

Response of MicroPro Earphones *(measured at eardrum)*



The above graph indicates that 4P earphones have 10-12 dB higher sound output and slightly more bass than the ER•4S earphones. The dotted red line is the target response of the open ear to a live performance (CD equalization). The black line represents how a listener perceives the sound.

ABOUT ETYMOTIC RESEARCH

Etymotic Research is a research, development and manufacturing company that designs products to measure, improve and protect hearing. Etymotic has spent over twenty-five years developing in-ear technology for auditory research, precision monitoring and critical listening. Etymotic has developed many of the innovative hearing technologies available today. Etymotic's products are used by musicians and others who insist on superior sound quality. Etymotic means "true to the ear."

ETYMŌTIC RESEARCH INC.
61 Martin Lane • Elk Grove Village, IL 60007
www.etymotic.com • 888-389-6684